

### **REMARKS/DISCUSSION OF ISSUES**

Claims 1-23 are pending in the application.

Applicants thank the Examiner for acknowledging the claim for priority and receipt of certified copies of all the priority documents.

Reexamination and reconsideration of this patent application are respectfully requested in view of the following remarks

### **DRAWINGS**

The Examiner has objected to the Drawings filed on 28 November 2001, requiring that Applicants file formal drawings. However, Applicants have already filed Formal Drawings on 18 January 2002 in response to the "Notice to File Corrected Application Papers" issued by the USPTO on 19 December 2001. Apparently the Examiner does not have these documents. Perhaps they were lost by the USPTO, or perhaps they were just not scanned into the image file wrapper (IFW). Accordingly, Applicants are submitting herewith a copy of the Formal Drawings filed on 18 January 2002, together with the transmittal letter that accompanied them.

### **INFORMATION DISCLOSURE STATEMENTS**

The Examiner has indicated that the IFW for this application does not include the Information Disclosure Statement (IDS) that Applicants filed together with this application on 29 November 2001. Applicants did indeed submit the IDS with the application papers, as indicated on the copy of the postcard accompanying this Response. Moreover, Applicants have also submitted another IDS on 4 November 2002, and on 10 January 2003 Applicants submitted a copy of a foreign Search Report. It seems that the USPTO once again failed to scan any of these documents into its new IFW system.

Accordingly, Applicants submit herewith, once again, copies of: (1) the postcard and IDS filed on 29 November 2001; (2) the IDS filed on 4 November 2002; (3) and the foreign Search Report submitted on 10 January 2003.

If these documents are once again misplaced or if the USPTO's contractors fail to scan these documents into the IFW, the Examiner is respectfully requested to contact the Applicant's representative by telephone to obtain these documents.

**35 U.S.C. § 103**

The Office Action rejected claims 1-23 under 35 U.S.C. § 103 over Moshrefzadeh et al. U.S. Patent 6,198,051 ("Moshrefzadeh") in view of Deane U.S. Patent 5,929,489 ("Deane").

Applicants respectfully traverse those rejections for at least the following reasons.

**Claim 1**

Among other things, the method of claim 1 includes: (1) depositing and patterning a transparent conductor layer and by selectively electroplating areas of the transparent conductor layer to form a metallic layer; and (2) the electroplated areas include the line conductors and exclude the source and drain conductors.

Applicants respectfully submit that no such features are disclosed or suggested by Moshrefzadeh, Deane, or any combination thereof.

The Examiner cites the title of Moshrefzadeh as somehow supposedly disclosing the feature that the electroplated areas include the line conductors and exclude the source and drain conductors. The title is: "Display Substrate Electrodes with Auxiliary Metal Layers for Enhanced Conductivity." Applicants see no mention of any source and drain conductors anywhere in the Title. Indeed, the methods disclosed by Moshrefzadeh do not even produce any source and drain conductors. Meanwhile, although Deane discloses source and drain conductors, nothing in Deane discloses or suggests that if metallic layer should be patterned on line conductors, they should also be **excluded from** the source and drain conductors. So, no possible combination of the teachings of Moshrefzadeh and Deane would suggest to one of ordinary skill in the art that one should electroplate line conductors, while **excluding** the source and drain conductors from electroplating.

Furthermore, Applicants respectfully submit that neither Moshrefzadeh nor Deane even teaches or suggests electroplating areas of a transparent conductor layer.

The Office Action cites col. 5, lines 33-50 and col. 6, line 65-col. 7, line 3 of Moshrefzadeh as supposedly disclosing this feature.

Applicants respectfully disagree. Col. 5, lines 33-50 pertain to a first embodiment (see col. 5, line 4) of Moshrefzadeh which deposits a metallic layer via shadow coating using a metallic beam and does not mention electroplating at all. So the text at col. 5, lines 33-50 does not disclose selectively electroplating any areas of the transparent conductor layer. Meanwhile, the text at col. 6, line 65-col. 7, line 3 pertains to a completely different second embodiment (see col. 6, line 42) of Moshrefzadeh which deposits a metallic layer "over the substrate" (col. 6, line 64) before the transparent conductive layer is even formed (see col. 7, lines 29-31). So the text at col. 6, line 65-col. 7, line 3 does not disclose selectively electroplating areas of the transparent conductor layer.

Meanwhile, Deane is only cited in the Office Action as disclosing features of a thin film transistor, and has nothing to do with plating a metallic layer on a transparent conductor layer.

Therefore, no combination of Moshrefzadeh and Deane teaches or suggests electroplating areas of a transparent conductor layer.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 1 is patentable over any combination of Moshrefzadeh and Deane.

#### Claim 2

Claim 2 depends from claim 1 and is deemed allowable for at least the reasons set forth above with respect to claim 1, and for the following additional reasons.

Among other things, in the method of claim 2 the electroplated areas also exclude the pixel electrodes.

Applicants respectfully submit that no such feature is taught by Moshrefzadeh, Deane, or any combination thereof, and, indeed, that such a feature would be completely contrary to the teachings of Moshrefzadeh.

The Office Action cites FIG. 2g of Moshrefzadeh as supposedly disclosing this feature.

Applicants respectfully disagree.

Indeed, FIG. 2g clearly shows that the metallic layer 36 is formed first and then a transparent conductor layer 39 is formed on top of it (see also col. 7, lines 29-31). Also, note that FIG. 2g shows portions of the pixel electrodes 39 (transparent conductor layer) at the edges being formed on top of and overlaying portions of the metallic layer 36. Indeed, the entire point of Moshrefzadeh is to provide each transparent pixel electrode with a metallic layer. In particular, Moshrefzadeh teaches:

*"The present invention involves a method for providing transparent conductive electrodes with auxiliary metal layers to enhance the conductivity of the electrodes without significantly altering their transparent properties."*

col. 4, lines 52-55. (See also, the Abstract at lines 4-7; col. 1, lines 22-26, 61-63; col. 3, lines 42-46, 60-63; col. 4, lines 7-11, 18-21).

Therefore, Applicants respectfully submit that the features of claim 2 are not disclosed or suggested by Moshrefzadeh, Deane, or any combination thereof.

Accordingly, claim 2 is deemed allowable for at least these additional reasons.

#### Claim 3

Claim 3 depends from claim 1 and is deemed allowable for at least the reasons set forth above with respect to claim 1.

#### Claim 4

Among other things, the method of claim 4 includes: (1) selectively plating upper surface areas of the transparent conductor layer using an electroless plating

step to form a metallic layer; and (2) the plated areas include the line conductors and exclude the source and drain conductors.

For similar reasons to those set forth above with respect to claim 1, Applicants respectfully submit that no such features are disclosed or suggested by Moshrefzadeh, Deane, or any combination thereof.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 4 is patentable over any combination of Moshrefzadeh and Deane.

Claim 5

Claim 5 depends from claim 4 and is deemed allowable for at least the reasons set forth above with respect to claim 4, and for the following additional reasons.

Among other things, in the method of claim 5 the plated areas also exclude the pixel electrodes.

For similar reasons to those set forth above with respect to claim 2, Applicants respectfully submit that no such features are disclosed or suggested by Moshrefzadeh, Deane, or any combination thereof.

Accordingly, claim 5 is deemed allowable for at least these additional reasons.

Claims 6-16

Claims 6-16 depend from claim 1 and are deemed allowable for at least the reasons set forth above with respect to claim 1.

Claim 17

The Office Action refers to the "steps" of claim 17 and directly copies verbatim the language used for the rejection of claim 1. However, claim 17 is a device claim not a method claim, it does not include any "steps," and the claim language quoted in the rejection of claim 17 that was copied verbatim from the rejection of claim 1 does not even appear anywhere in claim 17.

Respectfully, Applicants request a complete and independent examination of claim 17, including all of the actual features specifically recited in claim 17 - and not features recited in claim 1 that do not appear in claim 17.

Meanwhile, among other things, in the device of claim 17 the source and drain conductors, the column conductors and the pixel electrodes are defined by a transparent conductor layer having a metallic layer in contact with a portion of the transparent conductor layer, **the portion including the column conductors and excluding the source and drain conductors.**

Applicants respectfully submit that no such features are disclosed or suggested by Moshrefzadeh, Deane, or any combination thereof.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 17 is patentable over any combination of Moshrefzadeh and Deane.

#### Claim 18

Claim 18 depends from claim 17 and is deemed allowable for at least the reasons set forth above with respect to claim 17, and for the following additional reasons.

Among other things, in the device of claim 18 the portion of the transparent conductor layer in contact with the metallic layer also excludes the pixel electrodes.

Applicants respectfully submit that no such features are disclosed or suggested by Moshrefzadeh, Deane, or any combination thereof.

As explained above with respect to claim 2, this is completely contrary to the teachings of Moshrefzadeh. And, indeed, in direct contrast to claim 18, Fig. 2g of Moshrefzadeh cited in the Office Action shows that the portion of the transparent layer in contact with the metallic layer 36 definitely is the pixel electrode 39.

Accordingly, for at least these additional reasons, Applicants respectfully submit that claim 18 is patentable over any combination of Moshrefzadeh and Deane.

#### Claims 19-23

Claims 19-23 depend from claim 17 and are deemed allowable for at least the reasons set forth above with respect to claim 17.

### **CONCLUSION**

In view of the foregoing explanations, Applicants respectfully request that the

Examiner reconsider and reexamine the present application, allow claims 1-23 and pass the application to issue. In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Kenneth D. Springer (Reg. No. 39,843) at (703) 715-0870 to discuss these matters.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment (except for the issue fee) to Deposit Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17, particularly extension of time fees.

Respectfully submitted,

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